

Date: Monday, 1/30/2006 3:43:49 PM  
 User: Kim Johnston

## Process Sheet

|                       |   |                  |                       |
|-----------------------|---|------------------|-----------------------|
| Customer              | : CU-DAR001 Dart Helicopters Services                 | Drawing Name     | : CROSSTUBE EXTRUSION |
| Job Number            | : 25666   |                  |                       |
| Estimate Number       | : 10028   |                  |                       |
| P.O. Number           | : N/A   | Part Number      | : D6006129            |
| This Issue            | : 1/30/2006 S.O. No. : N/A                            | Drawing Number   | : D6006 REV A         |
| Prsht Rev.            | : NC  | Project Number   | : N/A                 |
| First Issue           | : N/A Type : LANDING GEAR                             | Drawing Revision | : A                   |
| Previous Run          | : 23970   | Material         | : N/A                 |
| Written By            | : <u>SK</u> <u>COMMENT (Below)</u>                    | Due Date         | : 6/1/2006            |
| Checked & Approved By | : <u>06.01.30</u>                                     | Qty:             | 26 Um: Each           |
| Comment               | : Est Rev:C 04.06.15 Added tolerance to Step 2 KJ/JLM |                  |                       |

## Additional Product

Job Number:



|         |                       |               |
|---------|-----------------------|---------------|
| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|

1.0

PG

PURCHASING



Comment: PURCHASING

Issue P/O: 00000505

AP 06/02/02

a) Order as per Dwg D6006

b) Material: 3.250 x 0.515 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube

c) Minimum ultimate tensile strength = 77 ksi

d) Minimum tensile yield strength = 66 ksi

e) Tolerance are per ASTM B210 (see details on Dwg D6006)

f) Material certification required

2.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material certification is attached

C206128/06 (27)

3.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6006

MS

06/06/30

27

4.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

N/A

**Dart Aerospace Ltd**

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: ☒ Date: 06/07/04  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

Date: Monday, 1/30/2006 3:43:49 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE EXTRUSION

Job Number: 25666

Part Number: D6006129

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



*u p/A*



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock  
Location: */*

*ml 06/06/30*

*(27)*

7.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

*SD 06/07/04*

*(27)*

Job Completion



*u 060704*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

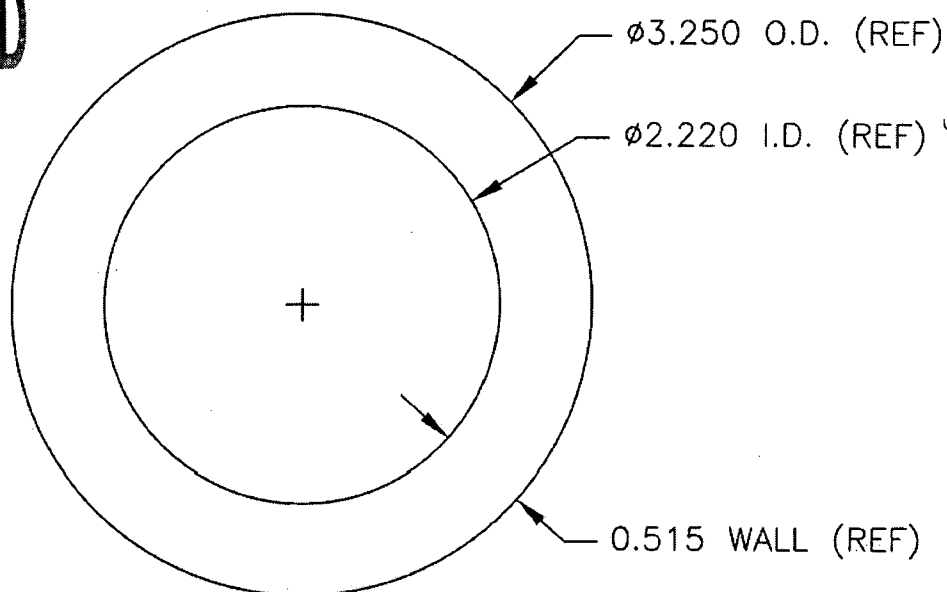
NOTE: Date & initial all entries



|                     |                       |   |                        |
|---------------------|-----------------------|---|------------------------|
| DESIGN<br><i>CP</i> | DRAWN BY<br><i>CP</i> | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED<br><i>A</i> | APPROVED<br><i>A</i>  | DRAWING NO.<br>D6006                              | REV. A<br>SHEET 1 OF 1 |
| DATE<br>00.11.17    |                       | TITLE<br>CROSSTUBE MATERIAL                       | SCALE<br>1:1           |
| A                   | 00.11.17              | NEW ISSUE   |                        |

## SPECIFICATION CONTROL DRAWING

**RELEASED**  
00.11.24 *A*



### NOTES

- 1) D6006-XXX CROSSTUBE  
LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 129" LONG TUBE: D6006-129

- 2) MATERIAL: 3.250 OD x 0.515 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.  
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:  
O.D.:  $\pm 0.008$  MEAN ( $\pm 0.016$  INCLUDING OVALITY)  
WALL:  $\pm 0.020$  MEAN ( $\pm 0.052$  INCLUDING ECCENTRICITY)  
LENGTH: XXX  $+0.188/-0.000$   
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 256266

Copyright © 2000 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

**Dart Aerospace Ltd**

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



ALUnna

**Abnahmeprüfzeugnis 3.1 - EN 10204:2004****Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004****Kunde:** Dart Aerospace Ltd.**Client:**1270 Aberdeen Street  
K6A1K7 Hawkesbury, ON Canada**Zeugnisnummer:** 362/06**Cert No. / No. du certificat:****Bestellnummer:** PO00000505**Order No. / No. de commande****Auftrag:** 17486/7**Our Reference/Notre Reference:****Produkt:****Product / Produit:**Rohre nahtlos gepresst  
Tubes seamless extruded**Spezifikation:****Specification:**

-; AMS - QQ - A - 200/11E; -; -; Spezifikation Dart Aerospace D6006

**Werkstoff:****Alloy/Alliage:**

7075

**Zustand:****Temper/État**

T 6511

**Abmessung****Size / Dimension**3,250 INCH x 2,220 INCH x 0,515 INCH x 129,000 INCH  
D6006-129 3.250 X 0.515 X 129**Kennzeichnung****Marking/Marquage:**ALUnna-Cert No.362/06-7075-T6511-Cast No.80117-QQA-200/11E-3.250" Od X0.515" wall-Heat No.421/04-  
Lot17486/7-1-P.O.00000505**Lieferung****Delivered Material / Matériel délivré:**

pcs.

lbs

27

1537

**1. Chemische Analyse****Chemical Analysis / analyse chimique**

|                     |      | Si   | Fe   | Cu   | Mn   | Mg   | Cr   | Zn   | Ti   | Pb    | Zr | Bi | Sn | Ni |
|---------------------|------|------|------|------|------|------|------|------|------|-------|----|----|----|----|
| Charge/<br>Cast No. | min. |      |      | 1,2  |      | 2,1  | 0,18 | 5,1  |      |       |    |    |    |    |
|                     | max. | 0,40 | 0,50 | 2,0  | 0,30 | 2,9  | 0,28 | 6,1  | 0,20 |       |    |    |    |    |
| 80117               |      | 0,07 | 0,15 | 1,53 | 0,04 | 2,48 | 0,19 | 5,87 | 0,04 | <0,05 |    |    |    |    |

Elements without indication &lt; 0,01 %

**2. Mechanische Eigenschaften****Mechanical Properties / Valeurs Mécaniques**

| Anforderungen<br>Requirements | tensile<br>(Rm) ksi | yield<br>(Rp0,2) ksi | elongation<br>2" % | elongation<br>A % | Hardness<br>HB | Heat No.         |
|-------------------------------|---------------------|----------------------|--------------------|-------------------|----------------|------------------|
|                               | min.<br>max.        |                      |                    |                   |                |                  |
|                               | 77,0                | 66,0                 |                    |                   |                |                  |
| 1                             | 86,275              | 79,025               | 11,0               | 11,0              | 173            | 421/04 - 27 pcs. |
| 2                             | 86,565              | 79,315               | 11,5               | 11,5              | 165            |                  |
| 3                             | 86,710              | 79,460               | 11,0               | 11,0              | 161            |                  |
| 4                             | 87,435              | 80,620               | 10,5               | 10,5              | 165            |                  |

**Ergebnis der  
Prüfungen:**

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

**Test results:**

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

**Resultats:**

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

KroosD

Certified acc. to DIN EN ISO 9001:2000, valid until 2006-03-09  
Certificate No.: 001959 QM

ALUnna